Remarks

Claims 3-9, 11-18, 49-50, and 53-57 were rejected as anticipated by CHIU et al. 5,407,531. Claims 21-27, 29-38, and 51-52 were rejected as unpatentable over CHIU et al. Claims 3 and 21 have been amended to include the subject matter of claims 8 and 26, respectively, and claims 8 and 26 have been canceled. Reconsideration and withdrawal of the rejections are respectfully requested.

CHIU et al. do not disclose that the amount of the first gas and the second gas supplied is adjusted in such a manner that an absolute value for the rate of change of layer thickness becomes:

$$|R| < |r_2| < |r_1|$$

and thus the claims avoid the rejections under §102 and §103.

CHIU et al. disclose at column 3, lines 49-59, that "[d]uring the etching step, a gaseous constituent is also introduced into the chamber 10 from the source 20. Specifically, the source 20 is adapted to supply indium into the chamber. Illustratively, indium in gaseous form is so supplied either from trimethylindium or from a conventional elemental effusion cell. In any case, the quantity of the indium-containing gas introduced into the chamber via the injector 26 is controlled to be up to about 0.4 times (illustratively, about 0.1 times) that of the etching gas introduced into the chamber by the injector 22." Thus CHIU et al. disclose that the quantity of the growth gas is

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controlled to be up to about 0.4 times that of the etching gas. CHIU et al. do not disclose the relationship between the etching rate (r1), growth rate (r2), and rate of change of the thickness of the semiconductor layer during implementation of the cleaning treatment step (R).

If the quantity of etching gas in CHIU et al. corresponds to r_1 and the quantity of growth gas corresponds to r_2, then a relationship among r_1, r_2, and R disclosed in CHIU et al. is:

$|r_2| \leq |r_2|$, where $r_1 < 0$ and $r_2 > 0$.

Then,

$|R| = |r_1 + r_2| \geq 0.6|r_1|$,

and thus,

$|r_2| < |R| < |r_1|$.

This is not the same as the relationship claimed in the claims 3, 21, and 53, namely $|R| < |r_2| < |r_1|$. Accordingly, these independent claims avoid the rejections, and the dependent claims are allowable for at least the same reasons.

The invention herein affords various advantages not achieved by CHIU et al., notably those discussed on page 17, line 25, through page 18, line 2, and on page 43, lines 9-13.

It is noted that CHIU et al. correspond to JP H8-97193 cited in the prosecution of the corresponding Japanese application before the Japanese Patent Office. The claims, as set forth above, were allowed and the Japanese patent has issued as number 4,186,489.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON

_____/Thomas W. Perkins/_____
Thomas W. Perkins, Reg. No. 33,027
209 Madison Street
Suite 500
Alexandria, VA 22314
Telephone (703) 521-2297
Telefax (703) 685-0573

TWP/lrs